

REMARKS

By this Amendment, Applicants amend claims 1, 11, and 25. Claims 1-6, 8-12, 14, 15, 21, 22, and 24-27 are pending in this application.

In the Office Action,¹ the Examiner rejected claims 1-6, 8-12, 14, 15, 21, 22, and 24-27 under 35 U.S.C. § 112, second paragraph; rejected claims 1-6, 8-12, 14, 15, 21, 22, and 24-27 under 35 U.S.C. § 112, first paragraph; and rejected claims 1-6, 8-12, 14, 15, 21, 22, and 24-27 under 35 U.S.C. § 103(a) as being unpatentable over Saylor et al. (U.S. Patent No. 5,487,139) in view of Moore (U.S. Patent No. 6,377,210).

I. REJECTION UNDER 35 U.S.C. § 112, 2nd

Applicants respectfully traverse the rejection of claims 1-6, 8-12, 14, 15, 21, 22, and 24-27 under 35 U.S.C. § 112, second paragraph. The Examiner contends that the claims are “incomplete for missing essential elements, such omission amount to a gap between the elements,” citing MPEP § 2172.01. See Office Action, page 2. Applicants respectfully disagree and note that MPEP § 2172.01 indicates that “a claim which fails to interrelate essential elements of the invention as defined by applicant(s) in the specification may be rejected under 35 U.S.C. 112, second paragraph, for failure to point out and distinctly claim the invention.” However, Applicants have not defined the elements raised by the Examiner on page 2 of the Office Action as “essential elements.”

Moreover, Applicants submit that the claims meet the requirement of 35 U.S.C. § 112, second paragraph, that the “specification shall conclude with one or more claims

¹ The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” For example, claim 1 recites “displaying a first map in one area of a display” and “displaying a second map in a second area of the display.” Accordingly, the physical position of the first map and the second map are clearly indicated in the claim and, moreover, one of skill in the art would clearly understand the scope of the claimed subject matter. “If the claims when read in light of the specification reasonably apprise those skilled in the art of the scope of the invention, § 112 demands no more.” *S3, Inc. v. Nvidia Corp.*, 259 F.3d 1364, 1367, 59 USPQ2d 1745, 1747 (Fed. Cir. 2001) (quoting *Miles Laboratories, Inc. v. Shandon*, 997 F.2d 870, 875, 27 USPQ2d 1123, 1126 (Fed. Cir. 1993)). Applicants therefore submit that the claims meet the requirements of 35 U.S.C. § 112, second paragraph.

Applicants also note that claims 1, 11, and 25 have been amended for further clarity to indicate the “automatic” nature of the computation of the georeferencing function. Accordingly, Applicants respectfully request that the Examiner withdraw the rejection of the claims under 35 U.S.C. § 112, second paragraph.

II. REJECTION UNDER 35 U.S.C. § 112, 1st

Applicants respectfully traverse the rejection of claims 1-6, 8-12, 14, 15, 21, 22, and 24-27 under 35 U.S.C. § 112, first paragraph. In the Office Action, the Examiner contends that the term “a portion of” recited in independent claims 1, 11, and 25 is not defined in the specification and, therefore, the claims are not enabled. See page 3. Applicants respectfully disagrees. Applicants note that the specification discloses that a

“user locates a common geographic point or feature on each map.” See specification,² page 7. Further, a user may “manipulate the maps until the region shown in Map1 is contained within the region shown by Map2.” See specification, page 8. The claim language is clearly consistent with these examples from the specification because a user would not be able to locate corresponding points between two maps unless both maps display “at least a portion of an identical geographic region,” as recited in claims 1, 11, and 25. Furthermore, the MPEP explains that the test for indefiniteness is whether “the claims set out and circumscribe a particular subject matter with a reasonable degree of clarity and particularity.” See MPEP §2173 at § 2173.02 (“Clarity and Precision”). Since the claims meet this requirement for the reasons given above, Applicants request that the rejection of the claims under 35 U.S.C. § 112, first paragraph, be withdrawn.

III. REJECTION UNDER 35 U.S.C. § 103(a)

Applicants respectfully traverse the rejection of claims 1-6, 8-12, 14, 15, 21, 22, and 24-27 under 35 U.S.C. § 103(a) as being unpatentable over Saylor in view of Moore. To establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), the Examiner must demonstrate each of three requirements. First, the reference or references, taken alone or combined, must teach or suggest each and every element recited in the claims. See M.P.E.P. § 2143.03 (8th ed. 2001). Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge

² In making references to the specification, it is to be understood that Applicants are in no way intending to limit the scope of the claims to the exemplary embodiments described in the specification. Rather, Applicants expressly affirm that they are entitled to have the claims interpreted broadly, to the maximum extent permitted by statute, regulation and applicable case law.

generally available to one of ordinary skill in the art, to combine the references in a manner resulting in the claimed invention. See M.P.E.P. § 2143.01 (8th ed. 2001). Third, a reasonable expectation of success must exist. See M.P.E.P. § 2143.02 (8th ed. 2001). Moreover, each of these requirements must be found in the prior art, not in applicant's disclosure. See M.P.E.P. § 2143 (8th ed. 2001).

Claim 1 recites a method of georeferencing a raster map including, among other things, "automatically computing a georeferencing function that specifies a relationship between the pixel coordinates of the first map and the geographic coordinates of the second map." Saylor and Moore, whether taken alone or in any proper combination, do not disclose or suggest at least these features of claim 1.

By contrast, the Saylor system uses a vector database to create a vector map that is aligned with a raster map produced from an existing hand-drawn map. In particular, in the Saylor system, an existing cartographic drawing must be scanned to create the raster map. See col. 4, lines 51-53. A vector map is generated by receiving vector information corresponding to the raster map from a vector background database. See col. 5, lines 15-20. The raster map and the vector map are then aligned. See col. 5, lines 29-31. Once the maps are aligned, the system retrieves X, Y coordinate information for a power service interruption location, and displays that location so as to appear overlapped on the raster map. See col. 7, lines 40-52. Aligning maps, however, does not constitute or suggest a georeferencing function that "specifies a relationship between the pixel coordinates of the first map and the geographic coordinates of the second map," as recited in claim 1 (emphasis added).

Further, on page 5 of the Office Action, the Examiner cites col. 2, lines 49-61 of Saylor, which discloses more generally the same process of identifying X, Y coordinates from a database and displaying a raster map displaying a location using the X, Y coordinates. However, as noted above, Saylor does not teach relating the X, Y coordinates into the claimed “geographic coordinates” using a georeferencing function. Saylor, therefore, fails to disclose or suggest at least “automatically computing a georeferencing function that specifies a relationship between the pixel coordinates of the first map and the geographic coordinates of the second map,” as recited in claim 1.

Applicants further note that according to the alignment process of the Saylor system, an approximate alignment of a raster image and a vector image may be made by “eyeballing” the raster image to the vector image. See col. 5, lines 29-42. As another approach, Saylor teaches that software may be used for “automated rectification of the raster map relative to the vector map.” See col. 5, lines 48-53. Applicants note that “rectification” is the process of removing the effects of tilt, relief, or other nonsystematic distortions from imagery, photographs, or maps. However, manually “eyeballing” the raster image to the vector image or using rectification to match the raster image to the vector image does not constitute “automatically computing a georeferencing function that specifies a relationship between the pixel coordinates of the first map and the geographic coordinates of the second map,” as recited in claim 1.

In the Office Action, the Examiner also cites to Saylor at col. 4, lines 7-19, apparently with regard to above discussed step of claim 1. See Office Action, page 5. However, the cited portion of Saylor discloses

CAD capabilities to create nested drawings and maps with graphical tools, complete coordinate geometry features to facilitate the designing and inputting of field and map surveying information for highways, waterways, etc., a graphical relations database system for tracking information contained on maps and drawings, information manipulation capabilities including the ability to zoom and pan maps, and an advanced programmers toolkit which allows users with programming experience to customize the software to particular applications using a high level interface language such as Fortran 77.

Saylor, col. 4, lines 7-19.

Accordingly, the above portion of Saylor discloses creating drawings and maps with graphical tools to show field and map surveying information and tracking such information included on drawings and maps using a relational database. However, these teachings also do not constitute "automatically computing a georeferencing function that specifies a relationship between the pixel coordinates of the first map and the geographic coordinates of the second map," as recited in claim 1.

Saylor also discloses that vector images and raster images are revised in a "CAD-like" format. See col. 5, lines 1-28. For vector images, this means that "latitude/longitude identifiers must be converted to X, Y coordinate pairs." See col. 5, lines 24-26. In other words, the latitude/longitude identifiers are converted to a unique and non-geographic X, Y coordinate system. Moreover, according to Saylor, for raster images, the coordinate system is displayed using CAD system coordinates, and not raw image coordinates. Saylor also teaches that locations of interest, such as customer addresses, are converted to X,Y coordinates using the "converted TIGER vector database." See col. 6, line 46 to col. 7, line 18. In other words, addresses are converted to the unique X,Y coordinate system used by the CAD system via the

converted TIGER database. Accordingly, since Saylor does not teach or suggest using geographic coordinates or raw image coordinates, Saylor does not disclose or suggest “automatically computing a georeferencing function that specifies a relationship between the *pixel coordinates* of the first map and the *geographic coordinates* of the second map,” as recited in claim 1 (emphasis added).

Moore also fails to compensate for the above-described deficiencies of Saylor. In the Office Action, the Examiner appears to apply Moore with respect to the feature of “receiving a corresponding second point on the second map.” See page 4. Even if the Examiner’s allegations are correct, which Applicants do not concede, Moore also does not disclose or suggest “automatically computing a georeferencing function that specifies a relationship between the pixel coordinates of the first map and the geographic coordinates of the second map,” as recited in claim 1.

By contrast, Moore discloses that a “first “Geo-Code” operation identifies the street address and city/town designation of a particular vehicle location, building, or other landmark which has been geographically referenced on a particular map.” See col. 12, lines 6-9. A “location of an entity, such as a street address ... [is determined] in a geographic coordinate system using the process described above to place the entity in the correct pixel location on the map display.” See col. 12, lines 20-24. The process disclosed by Moore uses “underlying map data 40 [that] can come from any source.... Static maps from any source are prepared in advance using a geographic information system, such as Mapinfo and Intergraph’s Microstation, scanned images or manually hand plotted drawings that are scanned to create digital images. Certain coordinate references are registered by registering certain specific pixels in a map display with true

earth coordinate projections, for example, longitude and latitude. This enables the vehicle locations as generated from the GPS data received by the datacenter 20 from each mobile equipment 11 to be properly placed on a particular map display, such as the map display 44 shown in FIG. 10.” See col. 9, lines 30-40. As disclosed, coordinate references are registered by registering certain specific pixels in a single map display with true earth coordinate projections, such as longitude and latitude. Accordingly, since Moore relies upon predetermined correspondences between pixels of a single map and longitude and latitude, Moore also does not disclose or suggest at least “automatically computing a georeferencing function that specifies a relationship between the pixel coordinates of the first map and the geographic coordinates of the second map,” as recited in claim 1 (emphasis added).

The Examiner, therefore, has not established a *prima facie* case of obviousness because the Examiner has not shown that Saylor and Moore, taken alone or in any proper combination, disclose or suggest all of the elements of claim 1. Applicants respectfully request the Examiner to withdraw the rejection of claim 1, as well as the rejection of claims 2-6, 8-10, 21, 24, and 27, which depend from claim 1.

Independent claims 11 and 25, although of different scope from claim 1, include similar recitations as those of claim 1. Accordingly, for at least the reasons set forth above regarding claim 1, independent claims 11 and 25 are also allowable over Saylor in view of Moore. Applicants, therefore, respectfully request the Examiner to withdraw the rejection of claims 11 and 25, as well as the rejection of claims 12, 14, 15, 22, and 26 at least due to their dependence from claims 11 and 25.

CONCLUSION

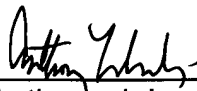
In view of the foregoing remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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